

DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: BAKER POND, LOWER	Lake Area (ha): 38.28
Town: WENTWORTH	Maximum depth (m): 10.6
County: Grafton	Mean depth (m): 5.3
River Basin: Merrimack	Volume (m ³): 2045500
Latitude: 43°53'37" N	Relative depth: 1.5
Longitude: 71°58'27" W	Shore configuration: 1.23
Elevation (ft): 895	Areal water load (m/yr): 77.38
Shore length (m): 2700	Flushing rate (yr ⁻¹): 14.50
Watershed area (ha): 4169.9	P retention coeff.: 0.28
% watershed ponded: 1.9	Lake type: natural w/dam

BIOLOGICAL:

15 January 1997

25 July 1996

DOM. PHYTOPLANKTON (% TOTAL)	#1	SPARSE - NO DOMINANT	SYNURA 25%
	#2		CHRYSOSPHAERELLA 18%
	#3		ASTERIONELLA 15%
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)			4.65
DOM. ZOOPLANKTON (% TOTAL)	#1	SPARSE - NO DOMINANT	KERATELLA 28%
	#2		POLYARTHRA 14%
	#3		VORTICELLA 14%
ROTIFERS/LITER		2	49
MICROCRUSTACEA/LITER		9	16
ZOOPLANKTON ABUNDANCE (#/L)		11	112
VASCULAR PLANT ABUNDANCE			Scattered
SECCHI DISK TRANSPARENCY (m)			2.7
BOTTOM DISSOLVED OXYGEN (mg/L)		5.5	0.3
BACTERIA (E. coli, #/100 ml)	#1		
	#2		
	#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 6.7
Hypolimnion volume (m³) : 67250
Anoxic volume (m³) : 67250

CHEMICAL:		Lake: BAKER POND, LOWER Town: WENTWORTH			
	15 January 1997	25 July 1996			
DEPTH (m)	3.5	7.0	3.0	7.5	9.5
pH (units)	6.3	5.8	6.6	6.1	6.2
A.N.C. (Alkalinity)	5.1	5.8	5.8	6.0	6.2
NITRATE NITROGEN	0.08	0.07	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.29	0.41	0.12	0.12	0.31
TOTAL PHOSPHORUS	0.012	0.009	0.007	0.007	0.010
CONDUCTIVITY (μ mhos/cm)	36.2	36.7	36.3	37.6	39.9
APPARENT COLOR (cpu)	23	28	55	55	65
MAGNESIUM			0.50		
CALCIUM			2.8		
SODIUM			2.6		
POTASSIUM			0.62		
CHLORIDE	< 2	2	3		3
SULFATE	5	5	4		4
TN : TP	31	53	17		31
CALCITE SATURATION INDEX			3.5		
All results in mg/L unless indicated otherwise					
TROPHIC CLASSIFICATION: 1996					
	D.O.	S.D.	PLANT	CHL	TOTAL CLASS
	4	3	1	1	9 Meso.
COMMENTS:					
1.	This pond was previously surveyed and classified in 1980. It was classified eutrophic in 1980. The change in classification was due primarily to the revised classification scheme that now takes into account the extent of dissolved oxygen depletion. There was little change in the actual D.O. between the two dates.				
2.	Chlorophyll and phosphorus values improved but water clarity decreased between the two dates; however, more frequent sampling is needed to detect trends.				
3.	A decent gravel boat launch exists into shallow water with sufficient parking.				
4.	A juvenile camp (Camp Pemigewasset) was located along the southeastern shore.				

Baker Pond, Lower Wentworth

launch



N

10

20

30

*35'

20

10



10 foot depth contours

0

0.2

Km

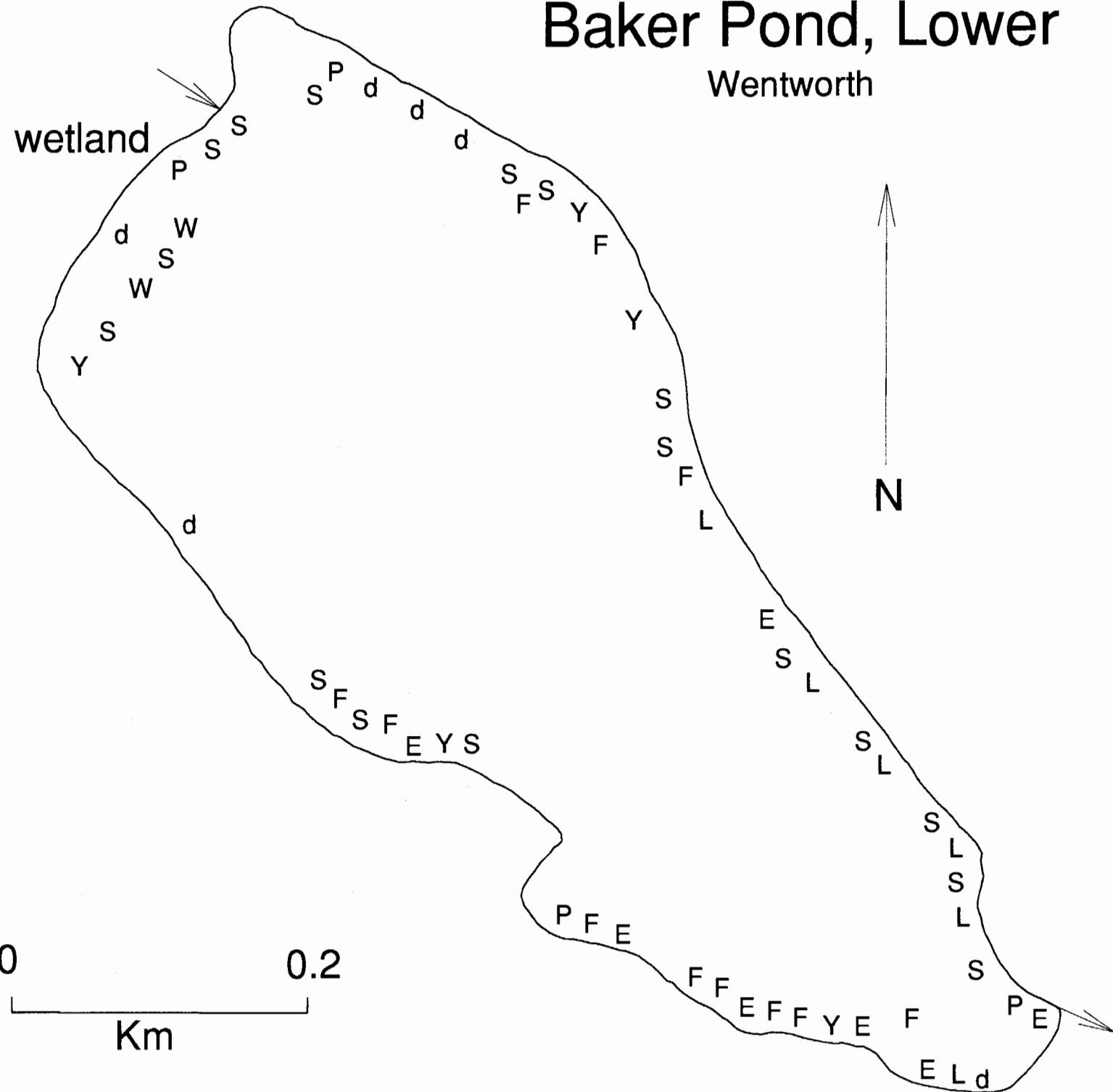
III-22



[illegible]

Baker Pond, Lower

Wentworth



III-24

[illegible]